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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/566,653 | 11/21/2006 | Mubarik Mahmood Chowdhry | 283560US0PCT | 7554 |

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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.
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ALEXANDRIA, VA 22314

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| EXAMINER |
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SALVITTI, MICHAEL A

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| ART UNIT | PAPER NUMBER |
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4131

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| NOTIFICATION DATE | DELIVERY MODE |
|-------------------|---------------|

11/28/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/566,653 | Applicant(s) CHOWDHRY ET AL. | |
| | Examiner MICHAEL SALVITTI | Art Unit 4131 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07/18/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: Page 2, line 1 is unclear in its meaning; it appears to be an incomplete sentence, or a non-idiomatic English sentence. Proper grammar suggests avoiding ending a sentence with a preposition.

Appropriate correction is required.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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3. Claims 1-6 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 7,417,098.

Although the conflicting claims are not identical, they are not patentably distinct from each other. Both '098 and the instant application disclose a process for using halogenated quinoidal activators, with Group 7-10 metal catalysts ligated with phosphine and/or amine, for the purpose of polymerizing olefins to create aqueous emulsions and miniemulsions. Identical reagents and reactants are used in both processes, with the exception that the quinoidal component contains an optional silicon or germanium bridge in '098. Because this bridging component is considered optional in '098, claim 1 of the instant application, and dependent claims 2-6 that follow, are rendered obvious by claim 1 of '098, as a genus of the species disclosed in '098. Claims 4-6 of the instant application are taught by claims 5-7 of '098.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

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2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,620,021 to *Starzewski et al.*, further in light of U.S. Patent Nos.: 4,824,934; 6,559,326; and 6,160,049.

Starzewski teaches a process for polymerizing olefins, such as ethylene, via a nickel-based organic catalyst (see abstract). This process utilizes the addition of quinoidal additives to nickel-phosphine compounds to generate in situ catalysts for olefin polymerization (column 1, lines 6-21). *Starzewski's* preferred nickel-phosphine catalysts are shown in claims 1-6 of '021, and he teaches the catalysts generated in the instant application. Patent '021 does not disclose the use of 2,6-dichloro-para-benzoquinone or 2,3,6-trichloro-parabenzoquinone. Instead, 1,4-benzoquinone is used in the examples; however '021 teaches towards use of halogen-substituted benzoquinone derivatives, e.g. chloranil (see column 2, lines 25-27). '021 does not disclose the compositions in emulsions or miniemulsions.

'934 teaches the use of chlorinated benzoquinone derivatives, including 2,6-dichloro-1,4 benzoquinone and trichloro-1,4 benzoquinone (see column 4, lines 1-26) as suitable compounds for polymerization of ethylene and carbon dioxide, with a Group VIII metal catalyst (column 2, lines 50-68). Likewise, additional ethylenically unsaturated substrates are disclosed (column 1, lines 57-68). This patent also does not teach the creation of aqueous emulsions of the product.

Patent '326 teaches the polymerization of numerous unsaturated monomers, preferably ethylene (column 15, lines 20-26), by means of a Group 6-10 metal, using ligands comprising substituted phosphenes (see structures in column 18). These catalysts are stable to water, and can be used with emulsifiers, such as anionic emulsifiers, to produce emulsions (column 16, lines 55-68 and column 17, lines 1-24). Emulsion polymerizations are known in the art to produce comparatively high molecular weights; '326 discloses molecular weights of over 10,000 daltons which are synthesized by this emulsion polymerization method (column 17, lines 25-26). Miniemulsion polymerization is not taught, but it is a known technique in the art for making particles on the nanoscale range (see U.S. Patent No. 6,160,049, column 1, lines 25-30).

These prior art publications are analogous art. Patents '021, '934 and '326 each disclose the use of metals from Groups 7-10 in conjunction with phosphine ligands to enable the polymerization of ethylene in solution. Patents '021 and '934 teach the use of nearly identical reagents to the instant application, albeit without the polymerization occurring in >50% aqueous solvent. Emulsion polymerization of ethylene by metal-phosphine ligated catalysts has been disclosed by '326, and the creation of miniemulsions via sonication has been taught by '049, for the purposes of polymerizing aqueous solutions of unsaturated monomers (column 1, lines 5-24).

At the time of invention, it would have been obvious to one of ordinary skill in the art to use the starting reagents disclosed in '021 and '934, with an aqueous solvent and surfactants as disclosed by '326. Furthermore, it is reasonable to believe that a miniemulsion polymerization could have been performed by one of ordinary skill, merely

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by sonicating the solution instead of stirring, as suggested in '049. The motivation behind combining these references would be the creation of a product with a smaller particle size, which has the added benefit of using less surfactant (see '049, column 3, lines 27-37; also '049, column 4, lines 23-41).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL SALVITTI whose telephone number is (571)270-7341. The examiner can normally be reached on Monday to Friday 8AM to 5PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on (571)272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R. Sample/
Supervisory Patent Examiner
Art Unit 4131

M.S.